JetNet 4006

Industrial 6-port Managed Fast Ethernet Ring Switch

RoHS

MSR < 5ms | LLDP & JetView Pro | DHCP Option 82

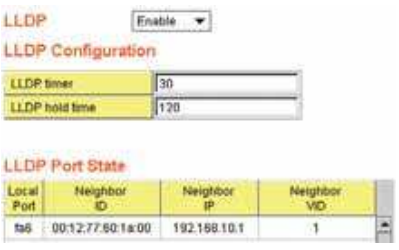
- 4 10/100 Base TX ports plus 2 10/100 Base- TX uplink ports
- Patented Multiple Super Ring - Network Recovery time < 5 ms
- Patented Rapid Dual Homing – compatible with RSTP
- Supports LLDP and JetViewPro i²NMS software for auto-topology visualization and efficient group management
- Supports SNMP, Web, Telnet and JetView Pro for remote management
- Port-Based VLAN with Tag Modification for efficient traffic transmission
- DHCP Client/Server/ DHCP Relay (Option 82) for automatic IP configuration
- IEEE 802.1p QoS with CoS, DSCP scheme for high-priority data traffic
- IGMP Snooping with Query Mode for optimized multicast forwarding
- DC 12~48V Redundant power input with polarity reverse protection
- Operating temperature -25~70°C

Overview

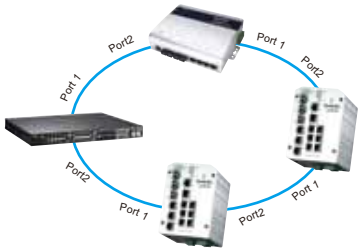
Korenix JetNet 4006 series is an Industrial Managed fast Ethernet Ring switch equipped with 4 10/100 Mbps ports plus 2 10/100 Mbps uplink ports for forming redundant connection in industrial Ethernet applications. The LLDP design allows the switches to be managed and configured easily by a single administrator console, where the topology can be automatically drawn in just seconds. The JetNet 4006 series combines more advanced Layer2 management protocols, such as the DHCP option 82, VLAN, IGMP snooping or SNMPv3 for efficiently controlling and managing the network performance in industrial environments. To provide network redundancy with guaranteed secure and reliable data transmission, JetNet 4006 series supports Korenix patented fast network ring recovery technology - the Multiple Super Ring (R.S.R.) which can recover network failures in just 5 milliseconds. The RSR co-exists with the IEEE 802.1d RSTP:2004 standard to deliver non-stop transmission by Rapid Dual Homing (R.D.H.) technology. JetNet 4006 is designed with a slim IP31 rugged aluminum alloy injection case with great heat radiation ability to work reliably under high temperature environment. To provide more reliability for industrial applications, it supports wide range power input DC 12~48V with auto polarity reverse function.

Auto Network Visualization & Topology Discovery

With the increasing popularity of internet applications, network traffic becomes heavier and hard to monitor and diagnose. To solve these issues, IEEE organization announced a new standard, the IEEE 802.1AB Link Layer Discovery Protocol for device auto discovery as well as for building infrastructure map by NMS. JetNet 4006 incorporates the LLDP function and efficiently works with the Korenix patented JetView Pro i^2-NMS, to easily discover devices and automatically draw out network topology with the link interface number of each device. This feature allows system administrators efficiently maintain the network system.



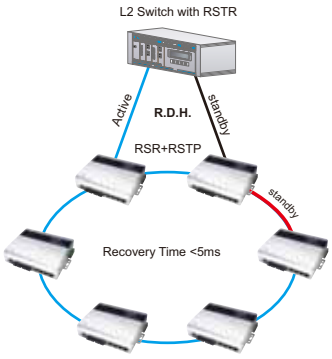
LLDP Configuration

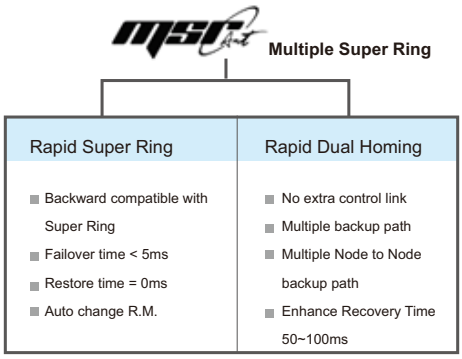


Auto Topology Discovery

Comprehensive Redundant Solutions — Multiple Super Ring (MSR™)

The JetNet 4006 supports Rapid Super Ring and Rapid Dual Homing which are included in M.S.R. ring technology for network ring redundancy applications. The two 10/100TX Ethernet ports of JetNet 4006 provide high speed uplink to connect with higher level backbone switches with Korenix MSR™ network redundancy technology. To ensure continuous transmission, the RSR topology allows linking up the backup path in 5ms when main path disconnection occurs. Furthermore, to integrate with other core Switches JetNet 4006 provides Rapid Dual Homing function which allows to integrate RSR with RSTP.





Full Layer2 Network Management Interface

JetNet 4006 supports versatile management interfaces including secure Web browsing-HTTPS, secure remote Telnet management- S.S.H., SNMP v1/v2c/v3, RS-232 local console and JetView Pro for fast and easy installation. All the real-time system status can be simply monitored and configured through these management interfaces.

Web Management Interface

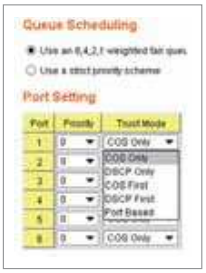
JetView Interface

Auto Device IP Obtain and Rerouting DHCP request

In large network systems, system IP address is difficult to maintain and efficiently assign to each device. Usually, it is listed in a table and it takes long time for IT engineers to configure those deivces one by one unless using the DHCP technology. JetNet 4006 supports various DHCP functions, including DHCP Client, Server and Relay (option 82). these features, it can obtain system IP address from DHCP Server, assign IP address to another link partner with IP& MAC address binding or exclude specified IP address, re-routing DHCP request to other network subnets. Therefore, system adaministrators can easily and efficiently manage the IP address without on-site configuration.

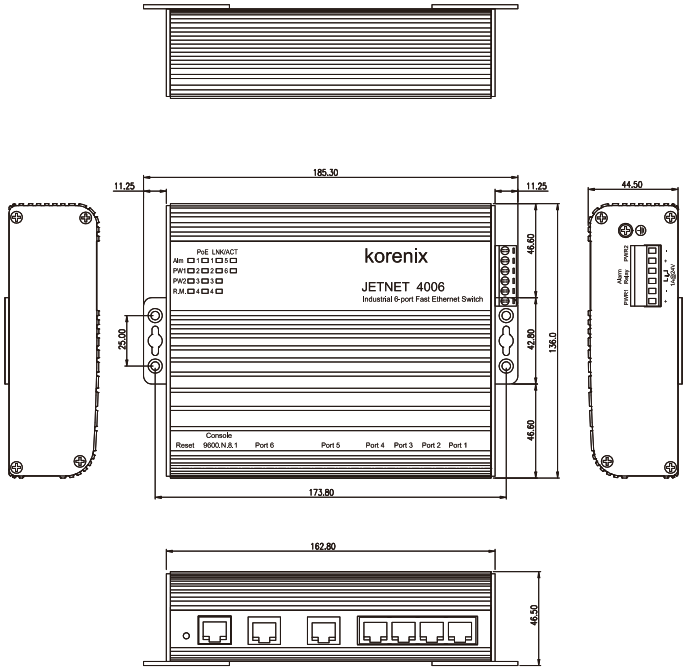
Quality of Service & Port-Based VLAN

To improve transmission performance, JetNet 4006 adopts QoS function with 8:4:2:1 WRR forwarding scheme and port-based VLAN with Tag ID modification function. These features ensure that the real-time service will be processed in low forwarding latency, like chatting via network, real-time security through video, etc.



JetNet 4006 Appearance

Dimension (Unit = mm)



JETNET

Specification

Technology

Standard:
IEEE 802.3 10Base-T
IEEE 802.3u 100Base-TX
IEEE 802.1p Class of Service
IEEE 802.1D-2004 Rapid Spanning Tree Protocol (RSTP)
IEEE 802.1AB Link Layer Discovery Protocol

Performance

Switch Technology: Store and Forward Technology with 3.2Gbps wire-speed non-blocking Switch Fabric
System Throughput: 1.785Mpps
MAC Address: 2000
Packet Buffer: Embedded 1Mbits shared buffer
Transfer performance: 14,880pps for Ethernet and 148,800 for Fast Ethernet and transfer packet size from 64 to 1522Bytes
Management interface: SNMP v1, v2c and v3, Web browser, JetView, JetView Pro and Console Management
SNMP MIB: RFC 1213 MIBII, RFC 1493 Bridge MIB, RFC 1757 RMON MIB, RFC 2674 VLAN MIB, RFC 1643 Ethernet like MIB, RFC1215 Trap MIB, , Korenix Private MIB
SNMP Trap: The SNMP trap agent provides Cold start, Warm start, Port event, Power event, Authentication failure
System Log: 1000 system entries for system or remote log server
Class of Service: IEEE 802.1p class of service, with 4 priority queues per port
Quality of Service: Quality of Service determined by port, Tag and IPv4 Type of Service
DHCP: DHCP Client, DHCP Server and DHCP Relay (DHCP option 82) The DHCP-Server functions supports specified IP exclude and MAC binding function.
Timer: Supports Network Time Protocol (NTP) to synchronize time from internet
VLAN: Port Based VLAN with Tag modification
IGMP: The IGMP supports IGMP v1, V2C protocol with IGMP Snooping and Query functions
Network Redundancy: Supports Rapid Super Ring function for network redundancy with 5ms network recovery time; To inter-operate with other higher-level switches, it provides Rapid Dual Homing (R.D.H.) technology compliant with RSTP protocol. JetNet 4006 is also compliant with IEEE802.1d 2004 edition for RSTP and STP.
IEEE 802.1AB LLDP: Supports Link Layer Discovery Protocol for device discovery and building infrastructure map
Event Alarm Relay: 1 Dry Relay Contact output for port link down and System power events
Supports 1A @24V current ability
Firmware upgrade: TFTP and HTTP firmware upgrade
Syslog: Message logged with server and client mode

Interface

Number of Ports:
6 x 10/100 Base-TX
Connectors: 10/100TX: RJ-45
RS-232 Console: RJ-45
6-pin Terminal Block: Power 1 and 2, Dry Relay Alarm Output
Cable: 10Base-T: 4-pair UTP/STP Cat. 3, 4, 5 cable, EIA/TIA-568B 100-ohm(100m)
100Base-TX: 4-pair UTP/STP Cat.5, Cat.5E/Cat.6 cable, EIA /TIA-568B 100-ohm(100m)
Reset Button: For system reboot and factory default setting
Diagnostic LED: Power LED: Power 1/Power 2 (Green)
Fast Ethernet Port 1~6: Link (Green) /Activity (Green blinking). Alarm (Red): Port link down or power failure occurred – software configuration

Power Requirements

System Power:
Redundant Power input with polarity reverse function
Power Input: DC 12~48V
Power Consumption: 8 Watts @ 48V (Maximum)

Mechanical

Installation: DIN-Rail or wall mount
Case: IP-31 grade aluminum metal case
Dimension:
45.5 mm (H) x 185.3 mm (W) x 136 mm (D) without DIN
Weight:
0.62 kg with package
0.55 kg without package

Environmental

Operating Temperature: -25 ~ 70°C
Operating Humidity: 5% ~ 95% (non-condensing)
Storage Temperature: -40 ~ 80°C
Storage Humidity: 5% ~ 90% (non-condensing)

Regulatory Approvals

EMI: CE/EN55022. Class A, FCC Class A
EMS: IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6
Shock: IEC60068-2-27
Vibration: IEC60068-2-6
Free Fall: IEC60068-2-32
Warranty: 5 years

Ordering Information

JetNet 4006 Industrial 6-port Managed Fast Ethernet Ring Switch

Includes:

- JetNet 4006
- Quick Installation Guide
- RS-232 Serial Cable
- DIN Rail Mount Kit